



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/682,005	07/06/2001	George Mazereeuw	03DV-9051	1055

23465 7590 06/24/2003

JOHN S. BEULICK  
C/O ARMSTRONG TEASDALE, LLP  
ONE METROPOLITAN SQUARE  
SUITE 2600  
ST LOUIS, MO 63102-2740

EXAMINER

HUYNH, KIM NGOC

ART UNIT

PAPER NUMBER

2182

13

DATE MAILED: 06/24/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

09/682,005

Applicant(s)

MAZEREEUW, GEORGE

Examiner

Kim Huynh

Art Unit

2182

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on RCE and amendments filed May 6 & 7, 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

### Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

### Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_.
- 4) ☒ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Response to Amendment*

1. The amendment filed 5/6/03 is objected to under 35 U.S.C. 132 because it introduces new matter into the disclosure. 35 U.S.C. 132 states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: the detection of RMS high voltage and RMS low voltage as recited in the claims is a new matter.

The root mean square (RMS) or effective voltage is the conventional term to refer to an AC voltage. The concept of "effective" value comes from a desire to compare the ability of a sinusoidal varying voltage to deliver energy to a resistor with that of a constant (DC) voltage. The RMS value of a periodic quantity is equal to the square root of the average of the squares of the instantaneous values of the quantity taken throughout the period. This value is equal to 0.707 times the peak value.

The applicant amended the claims to recite that circuit detects an RMS low voltage and RMS high voltage to overcome the Allos reference. Taken the definition of an RMS voltage, the effective value over an entire period, it is unclear what applicant defines as the high and low RMS since these values seems to be instantaneously measured and not through an entire period.

As indicated in the summary of the interview on 5/21/03, the examiner indicate that the amendment filed 5/6/03 further introduced new matter in the disclosure since

there was no support for the detection of low and high RMS voltage condition. The attorneys argued that Fig. 2 supported the detection as claimed. The examiner requested a modification of the specification to particularly point out how such circuit performs the detection of RMS voltages for the record for consideration of the new matter. The attorneys indicated a supplemental amendment would be submitted to provide such support, however, the supplemental amendment filed 5/27/03 lacks any discussion related to the circuit in Fig 2 and how the circuit performs the detection of RMS voltages as discussed above.

### ***Claim Rejections - 35 USC § 112***

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claims 1-20 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. The recitation of the circuit detects "rms" high and low voltage as added in the claims is not supported by the specification.

The root mean square (RMS) or effective voltage is the conventional term to refer to an AC voltage. The concept of "effective" value comes from a desire to compare the ability of a sinusoidal varying voltage to deliver energy to a resistor with that of a

constant (DC) voltage. The RMS value of a periodic quantity is equal to the square root of the average of the squares of the instantaneous values of the quantity taken throughout the period.

Fig. 2 of the disclosure includes a window comparator IC2 to compare the value of the line voltage with two voltage references provided by the resistor network R21-24. The window comparator IC2 will detect an high or low voltage when the line voltage is outside of the window set by the high and low references of the resistor network; the detection is done instantaneously. The disclosure fails to disclose how the circuit detect the high and low voltages of the line voltage over an entire period since the definition of an RMS voltage is conventionally defined as the effective value over an entire period.

4. Claims 10-20 are rejected under 35 U.S.C. 112, first paragraph, for being a single means claims because the claims recite a single circuit for performing the various functions without any structure to enable the circuit to perform those functions. The specification does not provide adequate support to reasonably provide the enablement for the single circuit recited in the claim to perform the recited functions (monitor, detect, and isolate).

A single means claim, i.e., where a means recitation does not appear in combination with another recited element of means, is subject to an undue breadth rejection under 35 U.S.C. 112, first paragraph. In re Hyatt, 708 F.2d 712, 714 - 715, 218 USPQ 195, 197 (Fed. Cir. 1983) (A single means claim which covered every conceivable means for achieving the stated purpose was held nonenabling for the scope of the claim because the specification disclosed at most only those means known to the inventor.). When claims depend on a recited property, a fact situation comparable to Hyatt is possible, where the claim covers every conceivable structure (means) for achieving the stated property (result) while the specification discloses at most only those known to the inventor.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 10-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 10-20 are rejected because it is unclear of the meets and bounds the applicant intent to cover by the term "circuit".

### ***Claim Rejections - 35 USC § 102***

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless -

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Allos (US 4,707,760). Allos disclose a circuit hence a method for monitoring a line voltage to detect and display L1-4 when an overvoltage and undervoltage event, disconnect power from the protected device, and restoring power to the device when the voltage falls within the range (see abstract).

9. Claims 1-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Bello (US 4,584,623).

Bellos disclose a circuit hence a method for monitoring a line voltage to detect and isolate the circuit in an overvoltage and undervoltage event (abstract, lines 1-3,

claim 1, and col. 2, ll. 9-24), and indicator lamp for indicating the status of the switch/line voltage being monitor when the monitored voltage is above/below the voltage range.

Bello also discloses restoring power to the device when the line voltage is within predetermined range (col. 34-48).

### ***Response to Arguments***

10. Applicant's arguments filed 9/23/02 have been fully considered but they are not persuasive.

a. Applicant argues that Allos does not disclose the monitoring of RMS line voltage, please note since the RMS or effective voltage is the conventional terminology when referring to AC voltage, Allos circuit monitoring the line voltage (AC mains) and therefore Allos monitoring the RMS voltage.

b. As for the argument that the voltage controller of Allos operates on the AC peak to peak voltage characteristic as opposed to the controller described in the present specification which operate using the characteristic of an AC RMS voltage. Please note:

1) the applicant fails to show how the present specification discloses the operating of the circuit using AC RMS voltage, the specification does not remotely mention how the circuit of Fig. 2 operates to detect the high and low voltages let alone the operation in AC RMS characteristic.

2) the claims fails to recite any structure to distinguish from the Allos reference. During the interview of 5/21/03, the applicant argues that Fig. 2 encompasses the

claimed invention, please note that applicant cannot depend upon features which are not cited in the claims to overcome the art rejection. Should applicant desire a specific structure of the protection circuit, such structure must be recited in the claims.

3) Allos discloses a window comparator to compare the line voltage (at node connecting R1 and R2) with two voltage references at nodes P1 and P2 to detect over and under voltages equivalent to applicant's window comparator (Fig. 2).

c. The applicant amended the claims to recite that circuit detects an RMS low voltage and RMS high voltage to overcome the Allos reference. The root mean square (RMS) or effective voltage is the conventional term to refer to an AC voltage. The concept of "effective" value comes from a desire to compare the ability of a sinusoidal varying voltage to deliver energy to a resistor with that of a constant (DC) voltage. The RMS value of a periodic quantity is equal to the square root of the average of the squares of the instantaneous values of the quantity taken throughout the period. This value is equal to 0.707 times the peak value.

Taken the definition of an RMS voltage, the effective value over an entire period, it is unclear what applicant defines as the high and low RMS since these values seem to be instantaneously measured and not through an entire period.

### ***Conclusion***

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kim Huynh whose telephone number is (703) 308-1678.



Art Unit: 2182

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-3900.

A handwritten signature in black ink, appearing to read 'Kim Huynh', with a long horizontal flourish extending to the right.

Kim Huynh  
Primary Examiner  
Art Unit 2182

KH  
June 21, 2003